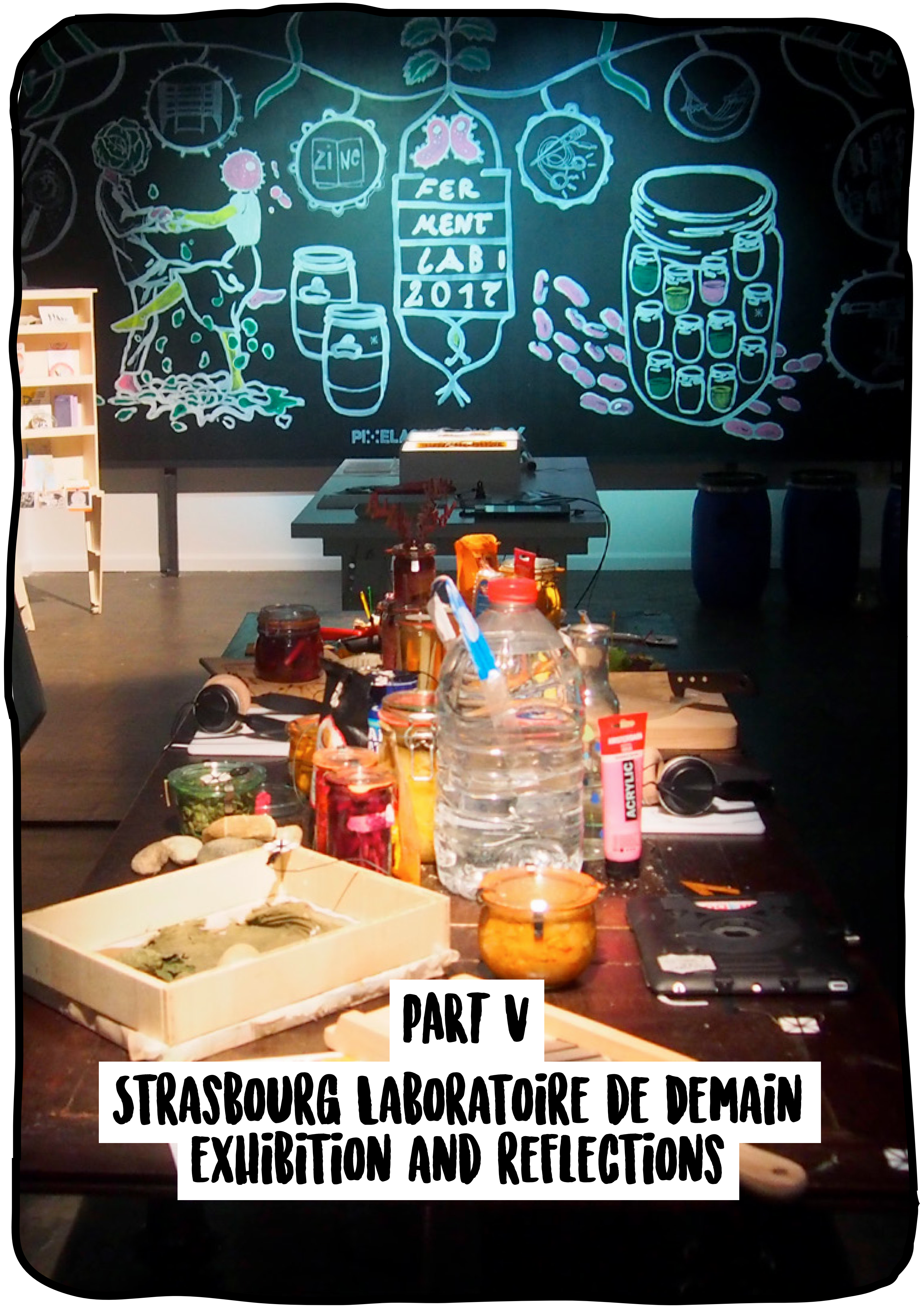

PART V

STRASBOURG LABORATOIRE DE DEMAIN EXHIBITION AND REFLECTIONS

FERMENT LAB STRASBOURG ZINE V

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Ferment Lab Zine series contain overall 5 parts:

I Ferment Lab introduction & overview
II Ferment Lab workshops, pop-up space, and multipliers
III Krütt Trepple Dance Party
IV Personal experiments in art-science
V Strasbourg Laboratoire de Demain exhibition & Reflections

The content of all zines was produced by Agnieszka Pokrywka, Andrew Gryf Paterson and Nathalie Aubret during Pixelache's artistic residency during 2017 at Le Shadok, digital-maker culture centre in Strasbourg, France. Zine 'Part 2' especially includes the work and media of workshop participants and collaborators. All parts were prepared for the different 'atlas' phases of the 'Strasbourg: Laboratoire de Demain' exhibition (10 October 2017- 21 January 2018) in the same location.

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All drawings and pictures in this zine are made by Agnieszka Pokrywka, unless indicated differently. Cover picture by Andrew Gryf Paterson.

Ferment Lab Strasbourg is powered by

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#FERMENTLAB #STRASBOURG

Archive.org
https://archive.org/details/@fermentlab-pixelache

Shadok
www.shadok.strasbourg.eu/projets/ferment-lab/

Facebook
www.facebook.com/groups/fermentlab.strasbourg/

Pixelache
www.pixelache.ac/projects/ferment-lab

photo by Audrey Meyer

Hopefully these starter questions of Ferment Lab Strasbourg continue to encourage you to investigate further, even if the funky taste or smell is nearer than afar! We are open for new ferment hints where to go in the future, so be in touch if you wish to ferment together with us.

Andrew Gryf Paterson, Agnieszka Pokrywka,
Nathalie Aubret

fermentlab@pixelache.ac

Further Starters for Consideration

What do we offer for Strasbourg: Laboratory of tomorrow? According to the exhibition co-curator Michel Jacquet, the exhibition sections were made in reference to Bruno Latour's concept of an 'atlas of potentials' Our Ferment Lab Strasbourg process shared and reflected upon in this zine series, is hopefully an entry-point or gain an insight into the biggest question our work provoked "Why is Ferment Lab in Shadok?" (a digital maker cultural centre), how is it part of our future?

Bioarts and art-science is not so obvious for many people. However, fermentation practices and traditions are an authentic sharing culture, one of the oldest, at the bacterial, cellular and species-organism levels, including humans. It is in our example, where connections can be made combining ancient and new innovative approaches, to make a most progressive approach to cultural heritage. Not just preserving the past, but imagining new ways ahead in the future, doing it in the present. Hence, Ferment Lab Strasbourg at its closure, is still just a starter with potentials to find further connections. We offered familiar everyday things from the kitchen and everyday life context mixed up with the unfamiliar, strange and technical things not yet known.

We show our tools, our experiments, our results, our messes. We share our accumulated archive web-page, opening up our processes, share creative commons knowledge, recipes, media etc. You can take what is interesting, and re-make or experiement anew. You can make your own mess. You can do it yourself. You can do it with others. You can show the things that you tried and didn't work. In this way it continues.

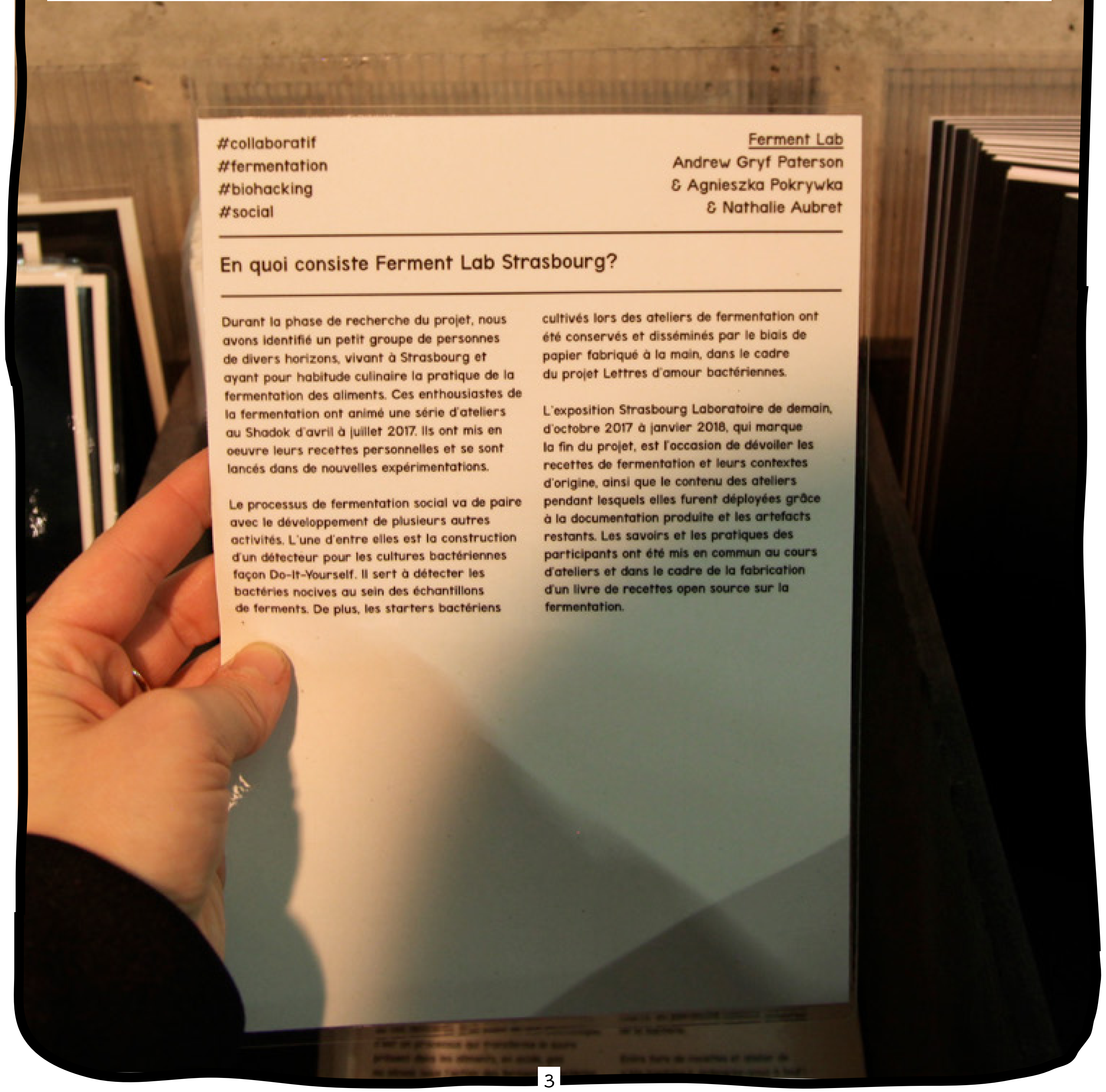
Beyond the process of the work on the ground for Ferment Lab Strasbourg, there are larger questions we could consider:

- What is at stake in the act of fermentation and making our own bio-active, live foods?
- Can experimentation around fermentation and food hacking empower us, and is so, in what ways?
- Can reinterpretations of heritage around food practices and fermenting contribute to future thinking and actions?
- What can fermentation and its cycles teach us about life in general and about ourselves?
- Is there a relationship between food culture and local culture in general? What does it say about us?
- What could recipes for practical and social fermentation look like in the context of Strasbourg?
- Can we rethink systems of food security (eg. homogenization) and food production and reflect it in practice? When does food become non-food and when does non-food become food?
- Can food and its processes become a platform for a dialogue and collaboration between people of different disciplines, social status and cultural belonging?
- Is it possible that the homogenization of bacteria, which makes fermented food uniform, dead and static be compared to the cultural homogenization that leads to a reduction of diversity among languages, oral traditions, beliefs, and practices?

EXHIBITION PRODUCTION AND OVERVIEW

The Ferment Lab contribution to 'Strasbourg Laboratoire de Demain' (Strasbourg The Laboratory of Tomorrow) exhibition aimed to demonstrate as physical and graphical elements related to the various events in our residency process. The tools we used, the leftovers of our experiments. It is an example of how to present ephemeral processes that were both short and long in time, using artefacts, gallery/museum like installation, storytelling, and simple interactivity.

La contribution du Ferment Lab à l'exposition "Strasbourg, Laboratoire de Demain" fut de montrer des éléments physiques et graphiques provenant des divers évènements de notre résidence. Les outils utilisés, les restes de nos expérimentations. C'est un exemple de comment présenter des processus éphémères qui étaient courts et longs dans le temps, utilisant des objets fabriqués, des installations dans une sorte de galerie/musée, la narration, et l'interactivité simple.



#collaboratif
#fermentation
#biohacking
#social

Ferment Lab
Andrew Gryf Paterson
& Agnieszka Pokrywka
& Nathalie Aubret

En quoi consiste Ferment Lab Strasbourg?

Durant la phase de recherche du projet, nous avons identifié un petit groupe de personnes de divers horizons, vivant à Strasbourg et ayant pour habitude culinaire la pratique de la fermentation des aliments. Ces enthousiastes de la fermentation ont animé une série d'ateliers au Shadok d'avril à juillet 2017. Ils ont mis en oeuvre leurs recettes personnelles et se sont lancés dans de nouvelles expérimentations.

Le processus de fermentation social va de paire avec le développement de plusieurs autres activités. L'une d'entre elles est la construction d'un détecteur pour les cultures bactériennes façon Do-It-Yourself. Il sert à détecter les bactéries nocives au sein des échantillons de ferments. De plus, les starters bactériens cultivés lors des ateliers de fermentation ont été conservés et disséminés par le biais de papier fabriqué à la main, dans le cadre du projet Lettres d'amour bactériennes.

L'exposition Strasbourg Laboratoire de demain, d'octobre 2017 à janvier 2018, qui marque la fin du projet, est l'occasion de dévoiler les recettes de fermentation et leurs contextes d'origine, ainsi que le contenu des ateliers pendant lesquels elles furent déployées grâce à la documentation produite et les artefacts restants. Les savoirs et les pratiques des participants ont été mis en commun au cours d'ateliers et dans le cadre de la fabrication d'un livre de recettes open source sur la fermentation.

Ferment Lab was invited to contribute to the 'Strasbourg Laboratoire de Demain' exhibition that took place from 10th October 2017 to 21st January 2018. The exhibition was proposed by Géraldine Farage, co-curated by L'Élastique Relationelle (Marine Froeliger & Michel Jacquet), with Scenography by Lucie Cardinal. The exhibition was presented as follows:

'Strasbourg: Laboratoire de Demain' (Strasbourg: The Laboratory of Tomorrow) exhibition at Shadok offers a current and cultural look at the changes in our world from the point of view of artists, researchers, entrepreneurs. It's a part of a larger exhibition programme carried by the various museums of Strasbourg titled 'Laboratoire d'Europe Strasbourg, 1880-1930' (Laboratory of Europe: Strasbourg 1880-1930). The exhibitions reflect on the world we are creating, as well as on the evolutions of our ways of living.

The exhibition at Shadok took place in three parts:

1. **Atlas #1 (10 October - 10 November 2017)** Singularités plurielles (Plural Singularities): Appréhender demain à partir de regards multiples (Understanding tomorrow from multiple perspectives) *#transformation*

2. **Atlas #2 (15 November - 22 December 2017)** Pluralités d'espaces (Pluralities of spaces): Développer de nouvelles relations avec la création (Developing new relationships with creation) *#co-création*

3. **Atlas #3 (4 - 21 January 2018)** Espaces immunitaires (Immune spaces): Déployer ses propres écosystèmes (Deploying our own ecosystems) *#innovation ouverte*

Ferment Lab Strasbourg was contributing to all three parts of the exhibition, and presented evolving content according to each section theme. Some parts of the installation stayed as 'constant elements', while others changed with each 'Atlas'. Due to the length of the exhibition, it was devised by Agnieszka Pokrywka and Andrew Gryf Paterson, in conversation with the Shadok curatorial team, that Ferment Lab's dedicated space in the exhibition would be set out as an exhibit of the remainders of process. Essentially, what was left behind from the laboratory period from late February to July 2017.

Agnieszka and Andrew arrived in late September 2017 to Strasbourg to prepare the exhibition at Le Shadok. Visits to Le Château Musée Vodou de Strasbourg [1], and the Musée Zoologique [2] in particular proved to be inspiration especially related to museum display of unusual nature-based artefacts.

They assessed the leftovers of Ferment Lab: potential artefacts including remaining ferment jars full, some moldy and stinky, test pH papers, lasers, glass beads, cutting or mixing tools and chopping boards, empty crates, and other miscellaneous items. And of course, the most bulky being four barrels of rather mature choucroute! They photographed and recorded each, assessing which to display, throw away or take home with them. And then they were ordered into some form of related ontologies to the Atlas themes.

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[1] *http://www.chateau-vodou.com*
[2] *https://www.musees.strasbourg.eu/musee-zoologique*

especially with EU institutions present in the city. It is ironic that we made a workshop on using waste food, and then we produced a lot of fermented food that was then potentially to be wasted. Formal rules vs everyday DIY practices. Informal network distribution, giving by hand to friends, even in far away places saved more than half of the collectively made Choucroute from the waste dump.

Overall, it is fair to say that exhibition spaces are not actually the best spaces for fermentation exhibits. Biomatter is living and changing throughout the period. It is a challenge for cultural institutions, curators and artists likewise, to work with living biomatter over longer periods of time as a public display. In the case of Ferment Lab, there were 10 months of biological materials present which had a bit of a smell. It is no coincidence the group were given a corner of the upstairs exhibition space next to a window to make the Lab. Air quality or circulation, smell, limited access to running water, organic waste access, as well as direct direct sunlight were all challenges in Ferment Lab Strasbourg both to make some ferments, as well as also to display them in public. The wrong type of bacterias, molds, yeasts, parasites, worms and flies were all potential unwanted exhibition visitors.

One of the most enduring ideas that emerged from the 'How To Make Ferment Lab?' Workshop session was a cabinet display, which the group commissioned from local AV Lab maker Hervé Munsch to make from digital fabrication (CNC router) method. The cabinet became a permanent feature from then onwards, and various tools, documentations, and ferment jars occupied our space in Shadok until late July. It was later used in the exhibition to hold our various Pixelache memorabilia.

In regards to the personal art-science and bioart experiments that were more singular in their development, both were presented and exhibited, focusing on audience engagement and take-away experiences.

Pokrywka explored her curiosity in 'Bacterial Sensing', trying to find out ways to sense whether ferments are in a good state or not. This started in the summer with DIY pH testing, using red cabbage juice as an indicator in this common chemistry methodology. She also experimented with low-cost microscopes as a way towards seeing ferments in alternative work-home environments. Using glass beads as a magnifying tool embedded in silicone was eventually presented as a take-away experience. Paterson continued his 'Bacterial Love Letters' process, inviting locals to experiment with edible paper for foraged or vegetable matter, and inks made from fermented berries. The poetic ambition was consider communications that might be made, gifted and received, ingested for mutual benefit for human and microbiome alike. Some progress was made in preparing edible plant based paper, but ink texture was not so satisfactory, so further experiments were necessary in December also.

What does it mean for artists or even digital makers to promote traditional food practices, in what way does it deserve cultural money or why an exhibition?
Is it possible to offer different ways to think, communicate, make do with or about food, or what influences our practices related to food, or non-human collaboration (with bacteria)? Can cities with rich history and close attachment to their culture still innovate? Can they become laboratories of the future through the reinterpretation of their heritage?

According to feedback, we succeeded in telling about our process in absence, generating curiosity and strange encounters within a digital cultural centre, as well as promoting innovative cultural heritage interpretations and local food practices. Some things are so taken for granted that not often they are questioned, as well as the regulatory environments surrounding them. For example, the 80kg Choucroute we made together and tried to gift. As a public give-away it almost failed totally. We didn't manage to capitalise on the waste food, regulation, and health and safety issues,

The centrepiece of the Ferment Lab Strasbourg was to be a table. Agnieszka and Andrew searched for and purchased from the local Emmaüs depot in Strasbourg [3]. They wished to find one which had a history, especially one which evokes a period such as early 20th Century, and brought some image of a 'homely' dinner table. The one they found turned out to be rather middle-class, maybe 'old German' style, with dark-stain varnish and a special marquetry diamond-shaped pattern in its centre. It was an agreeable contrast to the more minimalist contemporary concrete interior of Shadok.

On this table the selected artefacts would be placed, connected via cables and conductive thread to an interactive system via a 'Bare Conductive' microprocessor [4]. In this way visitors would be able to move around the table and learn more about each item by touching a touch-sensitive 'button', which would via headphones, play a short audio vignette (a brief evocative description, account, or episode) about the item. Nathalie Aubret provided the french-language narrative translations for the listeners. As mentioned, with each 'Atlas' shift, some items were removed from the table, and others added, creating a new tableau (arrangement) for the visitor to peruse and wonder over.

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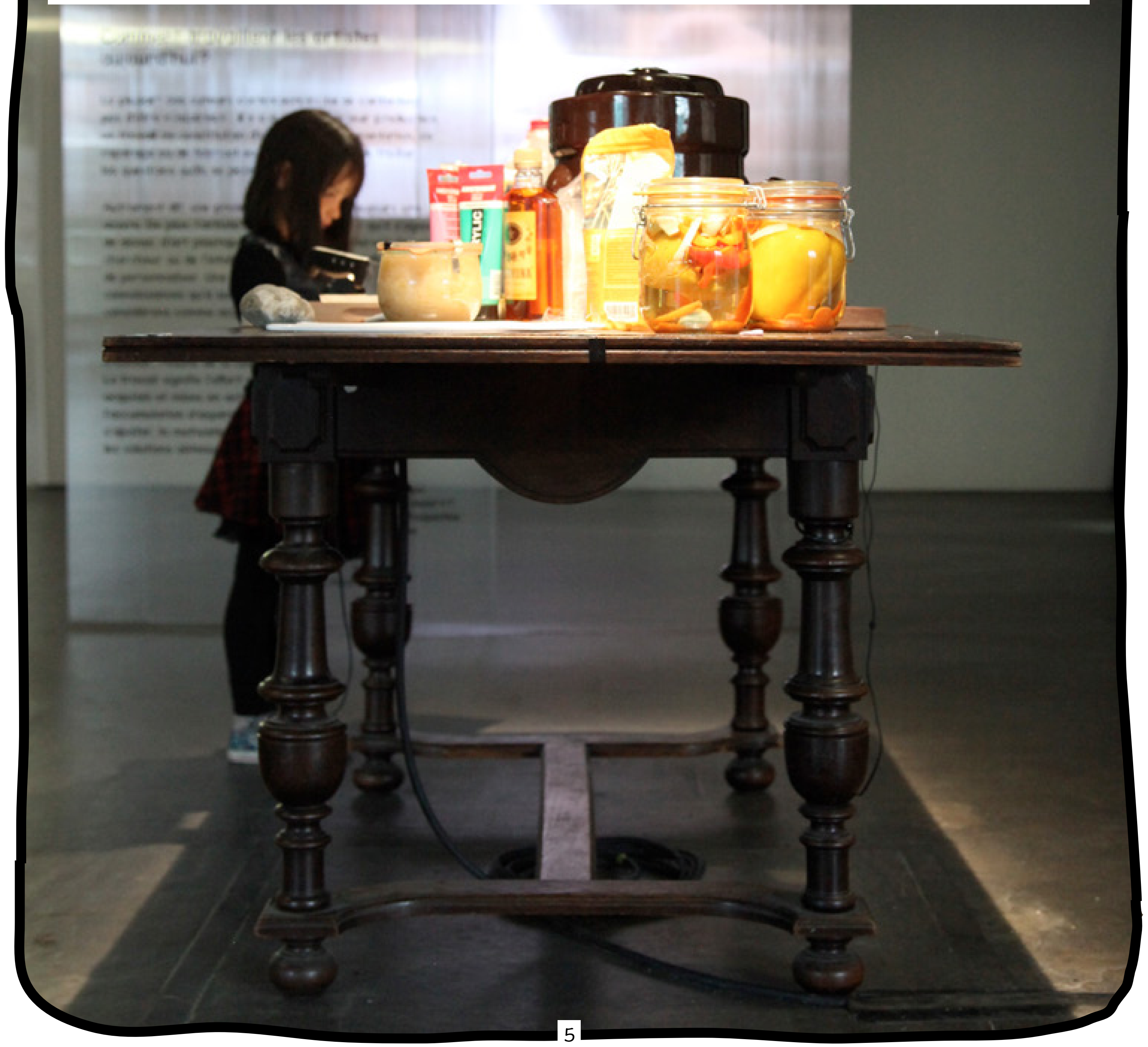
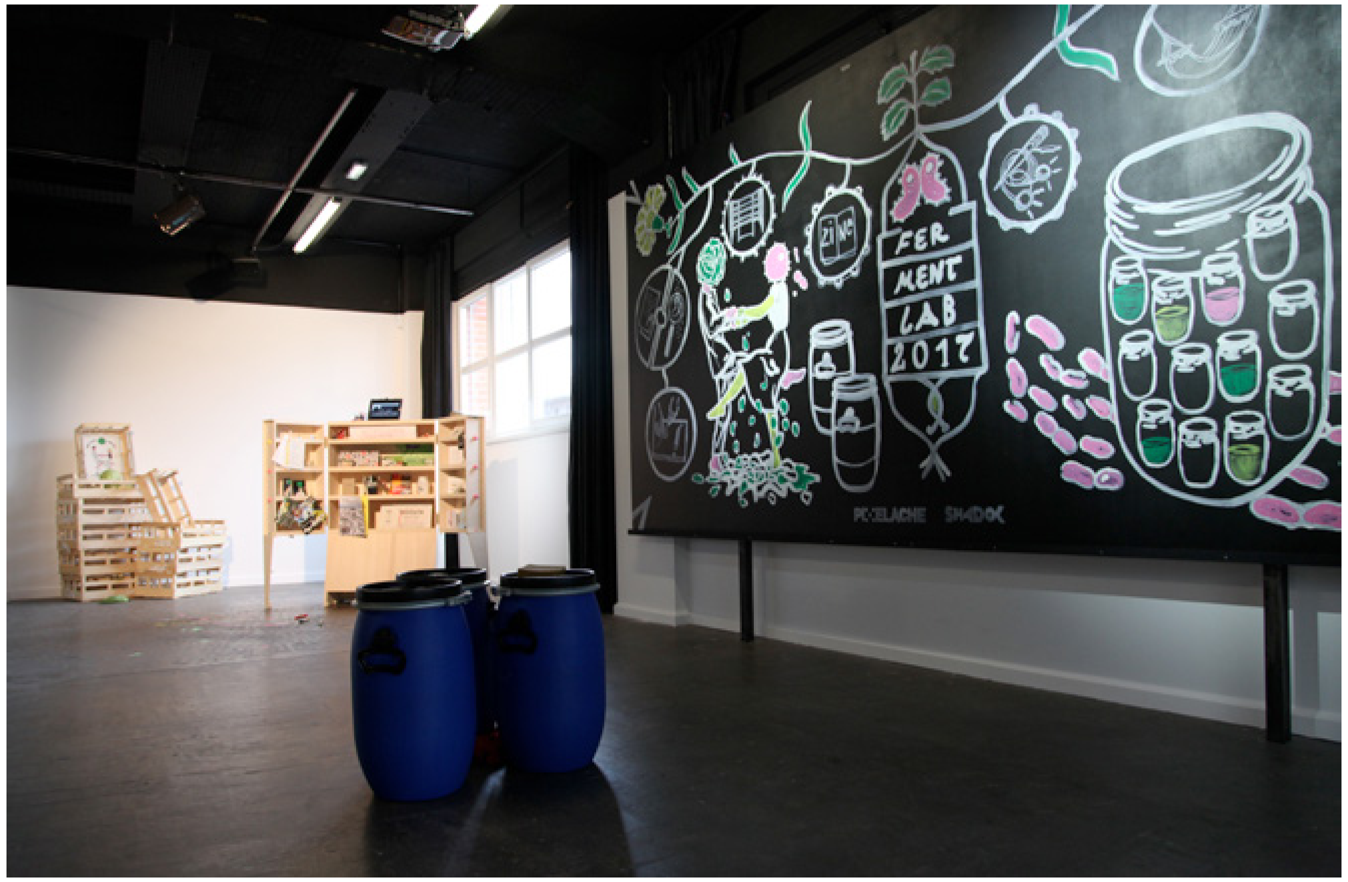
[3] *Emmaüs is a French homeless charity founded in 1949 to combat poverty and homelessness, which has regional depots with accept, sort and sell second-hand furniture, goods and other items. http://www.emmaus-strasbourg.fr*

[4] *https://www.bareconductive.com/*





In the rest of the exhibition space allocated to Ferment Lab there were displayed larger items related to their process.

- The Cabinet made by Hervé Munsch, this time not with ferment jars, but souvenirs and mementos from earlier Pixelache Helsinki projects, such as posters, programme-booklets, postcards, pin-buttons, t-shirts, stickers etc.
- The Krütt Trepple Dance Party featured in several ways, the children's paddling-pool from the was pumped up again, and the empty cabbage crates ghosted opposite the filled blue barrels of Choucroute.
- Take-away temporary tattoos of Agnieszka Pokrywka's illustrations were always on offer for visitors, as were later printed zines.
- Finally in the last 'Atlas', another table arrived, this time white, displaying the personal art-science experiments.

During the exhibition period, in addition to the usual ad-hoc visitors, Le Shadok offered cultural mediation, guided tours for the audience, communicating and explaining the works in the exhibition. These have been guided tours to various visitors both arranged and by registration. This included high school classes, college classes, families, cultural workers, professionals of the town planning, school of communication, local associations. Although there are no figures covering the whole exhibition period (the first weeks of the Atlas #1 were not recorded), between the 3rd of November and the 19th December, 2017, 138 exhibition visitors saw the exhibition during a guided tour. At the end of Atlas #3, which opened at the start of January, a further 373 visitors had seen the exhibition via the guided tour. So in addition over 500 persons were given a guided spoken introduction to Ferment Lab. According to Cédric De Zutter, one of those giving guided tours, visitors were every time caught wondering upon a 'lab' on fermentation in the middle of a digital culture centre's environment. Sensory comments such as "that smells strong" or « it stinks », when the barrels of sauerkraut were opened was no surprise!

The following sections related to the exhibition further detail the artefacts included in the Ferment Lab Strasbourg exhibition as lists related to each 'Atlas'.

The second workshop was more 'meta', inviting the same and new participants to consider how to make a 'Ferment Lab' space which would be the public interface for the residency period. This yielded many good ideas about how to make a socially-orientated laboratory space, although only a few were realised (the Ferment Lab cabinet being one of them). Furthermore our open call for local fermenters, to 'mulitply' the activity in our space during April-June only resulted in 2 potential workshops, of which one was realised: Hervé hosting his own 'Fermentation and Visual Identity' workshop including use of fablab laser-cutter on two occasions in April 2017 (and January 2018 also).

Social fermentation is difficult without the community. Unfortunately most 'starter' discussions didn't follow through as we hoped. It is hard to assess why this was. For sure the residency period included mixed expectations from both sides of public cultural mediation from within the cultural institution of Shadok, and sometimes promotion and communications were complicated, especially with different production cycles of print, online, social media etc. Since we also lost from the production process Nathalie Aubret as our fluent French speaker and writer, from March 2017 onwards, so we didn't manage to keep as well in contact remotely with new persons, and develop relationships in advance or after visiting. There was also a pattern of people contacting Ferment Lab when the group were not present in Strasbourg, and also not being able to meet us when we were present in the city. Was this the effect of our spread-out presence in Strasbourg? Due to work commitments in Helsinki, we had to structure our residency in small bursts over the 6 month 'experimental laboratory' period from February-July. This also strongly influenced how we allocated resources and budget in the project, whereby more was spent on travels than would be the case if we stayed for 3 or even 6 months solid. Arguably the lack of consistent presence most likely affected the opportunity to develop and build up a community around Ferment Lab Strasbourg.

Likewise, a remote residency (with comings and goings every month or so) doesn't always suit to the shorter-scaled everyday practices of fermentation. We worried about our ferments going bad while we were away. Quite often on return, we had to throw out some bio-matter 'content'. However, our long process ferment - the 80 kg of Choucroute made during 'Krütt Trepple Dance Party' - fermented in barrels over the year for approximately 9 months. The ambition to give it away one month after it was made for free were hampered, but the longer term result was actually also worth it!

It would be wise to think the same about social fermentation. Speculation: Did any food entrepreneurs or activism scene come to our exhibit? University biologists, small-scale bio-industrialists or someone from the local bioethics forum? Did we inspire someone to go home & make their own? Our Facebook group at first only included a list of persons who took part in the original workshops, but gradually grew over the year, exposing the process to invited regional and international members of the European bioart scene. What is the measure of success? Maybe in the longer term, that the flavours will be mature and tasty new flavours.

In summary, social fermentation, like food ferments, needed someone on site to look after them, to check and care for the conditions for bubbling activity, top up water, check for bad mold or yeast growth, as well as enjoy the tastes and flavours when they are ripe.

The Exhibition of Ferment Process

If we were promoting the concept of social fermentation, all these activities were 'starter' encounters, where something may bubble and ferment into new actions in the future. However, there was also an expectation to present these processes in the 3-month long group exhibition 'Strasbourg: Laboratoire de Demain' (Laboratory of Tomorrow), with 3 'Atlas' stages of development.

We installed a table with permanent and changing artefacts, tools and ingredients remaining from our process, with short audio vignettes (touch-interactive via Bare Conductive system) for the audience to listen to, telling stories about the different things we did, or what we used the item for. The installation also included larger items off the table that changed with each month, sharing some media or objects or research outcomes from our processes.

photo by Andrew Paterson

The shredded fermented cabbage dish Choucroute is also a food icon of the Alsatian region known traditionally as Sürkrüt, as well as being a trans-Central European dish known as *Sauerkraut* in German or *kapusta kiszona* in Polish respectively. Considering that in Strasbourg, Alsace, we could have easily chosen also to tackle wine, beer, cheese among other foods, it was an interesting restriction to our process. With cabbage on the brain, we focused our attention on exploring alternative ways to engage this dish, including, for example, a participatory method of making it as a collaborative, performative work (Krütt Trepple Dance Party).

Developing a Community Engagement

Our process was developed openly and organically according to who has turned up to the workshops and meetings, and what followed through or not from that point onwards. Early exploratory meetings in December 2016 and January 2017, assisted by Shadok staff and by our own initiative, introduced to us a variety of persons from associations and independent designers or makers. Primarily we were interested to work with neighbourhood and special-interest food associations, as well as cultural associations focused on sharing cultural heritage, collaborative making and urban gardening. This is a reminder of our aims from the beginning:

"We see the project as an invitation into a transformative and hopefully empowering process. For this process to unfold, Ferment Lab set outs to open participatory/collective spaces for:

- *exploration, sharing and re-appropriation of heritage and know-hows, in connection with local food culture/fermentation practices;*
- *learning by doing and skill exchange around the making of our own live food;*
- *experiencing a different social time and new kinds of interactions following life cycles of fermentation;*
- *emergence of new social narratives engaging with the local food culture/fermentation;*
- *co-designing events, recipes and the final exhibition with partners & participants;*
- *initiation of new collaborations between local actors."*

In late February and early March, the work-group of Paterson, Pokrywka and Aubret hosted two DIY-DIWO-style workshops 'How to make Ferments' and 'How to make Ferment Lab'. On the first occasion, participants were given demonstrations on how to make cabbage & saline-based ferments (Kimchi, Choucroute, Waste-vegetable pickles) with a focus on making and sharing documentations in various formats. We introduced ideas of participatory documentation - that each can contribute in their own way and describe the recipe or process - and also about making a low-cost Zine together. We had hoped that this would be done together with participants, but due to lack of time in the workshop, however it ended up being an end-of-process documentation and reflection work undertaken only by Paterson & Pokrywka.

Atlas #1

Atlas #2

Atlas #3

photos by Andrew Paterson

FERMENT LAB STRASBOURG EXHIBITION ARTEFACTS

CONSTANT ELEMENTS

The Ferment Lab contribution to 'Strasbourg Laboratoire de Demain' (Strasbourg Laboratory of Tomorrow) exhibition was to demonstrate as physical and graphical elements related to the various events in our residency process. The tools we used, the leftovers of our experiments. It is an example of how to present ephemeral processes that were both short and long in time, using artefacts, gallery/museum like installation, storytelling and simple interactivity.

Permanent artefacts in the Ferment Lab space:

- 1 x Cabinet with content related to Pixelache, including artefacts, tablet screen showing clips related to previous festivals and related projects;
- Variable temporary tattoos with Ferment Lab graphics, facilitated with wet sponge;
- 1 x Ferment Lab mural representing history (left side) and dreams (right side) of the project with elements referring to Alsatian iconography;
- 3 x 30L blue tubs containing 3 flavours of Choucroute (Plain, Spice, Carrot).
- 1 x Second-hand, dark-stain 'old German' wooden table with diamond marquetry design.

Permanent artefacts on the 'old German' table:

- 1 x Bags of sea salt;
- 1 x Collection of water containers;
- 1 x Video clip with GoPro footage from 2nd workshop;
- 2 x Long white spoons;
- 1 x Petri dish with bread starter sample inside;
- 1 x Small-size choucroute cutters;
- 2 x 'Bare Conductive' boards, crocodile-clip wires and conductive thread;
- 1 x Knife encapsulated in transparent acrylic heart;
- 1 x Jar of fermented cabbage (Choucroute Gratuit);
- 1 x Collection of paint tubes & pens (fluorescent pink, green, yellow);
- 1 x Sample sticks & stained paper (Bacterial Love Letters);
- 2 x Sets of headphones, placed on 2 x small plastic cutting boards.

Archive links:

- *https://archive.org/details/fermentlab-pixelache-2017-strasbourg-exhibition-atlas-1-opening-agryfp*
- *https://archive.org/details/fermentlab-pixelache-2017-strasbourg-exhibition-permanent-audio*

REFLECTIONS

Ferment Lab Strasbourg as a 6 month residency process, a social fermentation starter, an example of local participatory bioarts or art-science experiments, and exhibition.. We reflect on our ambitions, the positives and what is not achieved.

Ferment Lab Strasbourg comme un processus de résidence de 6 mois, un démarreur de fermentation sociale, un exemple d'expérimentations bioarts ou art-science locales et participatives. Nous pesons nos ambitions, les points positifs et ce qui n'est pas encore atteint.

Ferment Lab is a participatory space for food and social fermentation and is a current active and ongoing project of Pixelache Helsinki. It's latest iteration, as international resident project at Le Shadok fabrique du numérique, Strasbourg, France, was ongoing as a production from October 2016, it's public activity since the beginning of 2017, and closed with the exhibition in January 2018. Other than the 2017 festival, Ferment Lab was one of Pixelache's largest project within that year. It aimed to offer a local (Strasbourg), regional (Alsatian-Swiss connections) and international example of process-based, site & context specific, participatory bioarts or art-science experiments, and as a cultural production.

In this last section of zine part 5, we reflect on our practice and original ambitions, both the positive and not yet achieved.

Making & Sharing Fermentation Processes

Fermentation is a natural process that humans have learned how to master. It is a crucial element to making foods and beverages in order to preserve it and enhance its taste and nutritional properties. In biochemical terms, it is a process that converts sugars present in foods, to acid, gazes or alcohol, under the action of ferments (such as bacteria, yeast, mold), most of the time in anaerobic (oxygen-deprived) conditions. In its various iterations, Ferment Lab has taken various forms in its exploration of the phenomenon of fermentation. The project involves research and experimentation into food preparation as well as into social interpretations of the concept.

Overall Ferment Lab aims to be conducted in various locations in order to collect parallel stories of food and social transformation, transplant gained recipes into other contexts and create new knowledge and meanings through experiments in social fermentation.

"The project aims to make the process shareable:
by inviting the general public to come and observe fermentative processes, both biochemical and social;
by presenting our findings in a comparative manner in the form of an open source cookbook of food and social fermentation."

The collection of 5 Zines, of which this is the last, is arguably the presentation of our experience and findings, as a 'cookbook of food and social fermentation'. As the Ferment Lab Strasbourg process has by its nature been site-specific, and many of our texts about it have been communicated in French, we decided to make an English-language zine which elaborates and opens up the project to an international reader and those who encounter the project for the first time after the exhibition is dismantled. A series of five zines have been designed and compiled by Agnieszka Pokrywka, including her own images and illustrations, as well as those of other participants, plus recipes and instructions. The first zine is an overview document, including project timeline, list of related projects, bibliography and comments on budget or work patterns. The second zine covers the participatory workshops which took place during the laboratory period; the third zine focused on media documentation from the Krütt Trepple Dance Party; while the fourth zine describes the 'personal art-science experiments' of Paterson and Pokrywka. Finally the last and fifth zine (this part) released at the end of the exhibition period, includes details about the artefacts exhibited, the ambition of the exhibition with feedback, and reflections on the whole process of Ferment Lab in Strasbourg.

As a longer term legacy and reference for the Ferment Lab, all relevant media, illustrations, documentations and texts are shared on an Internet Archive account with open creative-commons licenses, so that our work is accessible and adaptable for future inspired fermenters or commoners [5].

As a focus, it turned out that cabbage was centre-stage food example. Because it was easiest and simple, didn't require specialised equipment, and arguably was most mundane form of fermentation.

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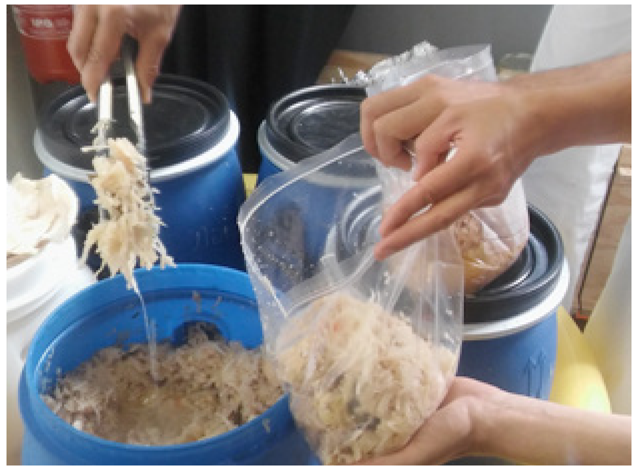
[5] *https://archive.org/details/@fermentlab-pixelache*

VISITOR COMMENTS BY MAYA MINDER ARTIST-CURATOR AND FERMENTER BASED IN ZÜRICH, CH

Andrew Gryf Paterson invited me last summer to visit first time Ferment Lab at Shadok, to be present when he opened the 4 big barrels, containing about 80 Kg of sauerkraut he and others processed the last spring in the Krütt Trepple Dance Party.

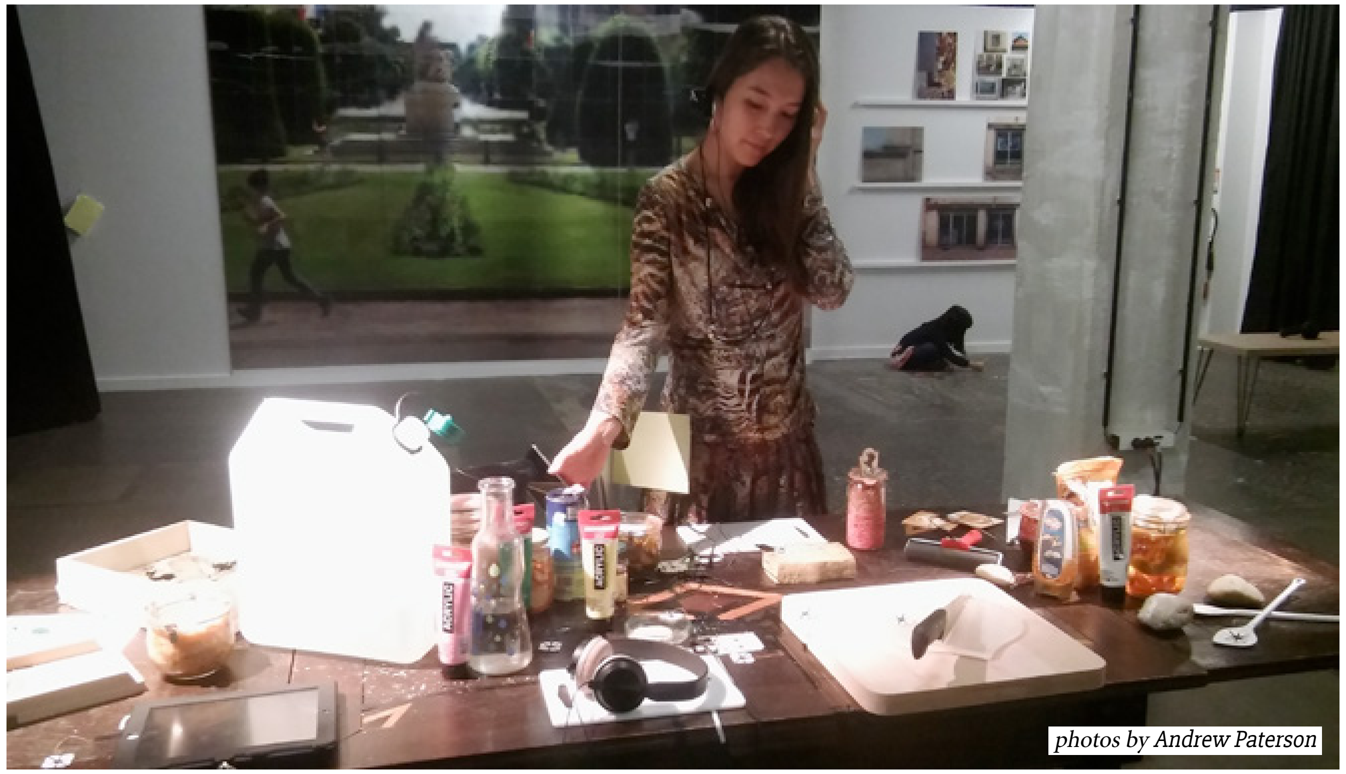
Like a big opening reception, we (myself, Marc Dusseiller of Hackteria and Andrew) gathered for this glorious moment of opening the sauerkraut that sat 4 months waiting at Shadok with trillions of microbes working inside the middle of the kraut. What did the change of microbes do to its taste? Has there been mold growing? What olfactory change occurred throughout the process of fermentation? A moment of great anticipation and curiosity. Fermenters united!

The sound of a popping the lid while opening a jar is one of the great pleasures of fermenters around the world. And the occasion to meet in real person amongst specialists who only knows each other via social media is rare. Once opened, the sauerkraut was incredibly tasteful and rich in flavour and depth, while the texture was tangy but still crunchy and fresh.

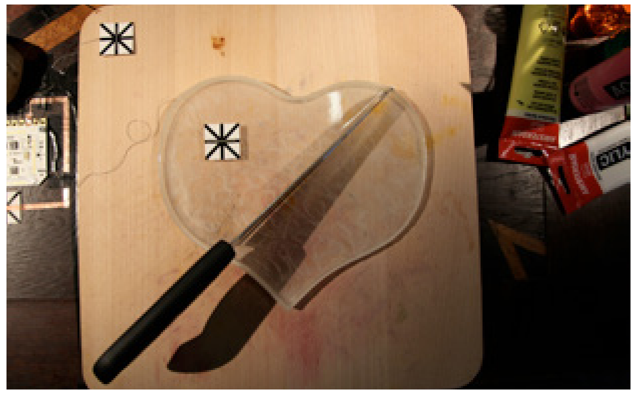


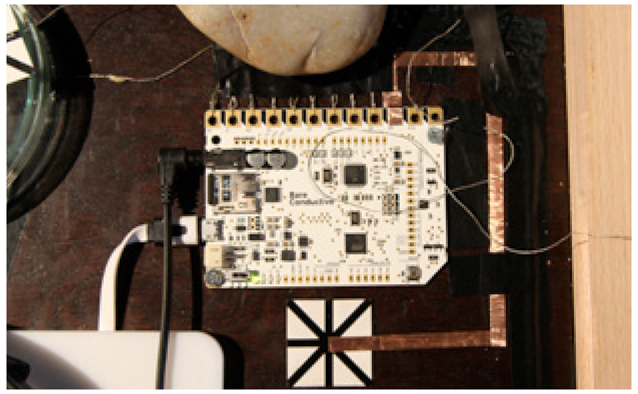
The way it was produced was interesting, in the ancient manner of stomping it by bare feet, washed only with cheap european wine. The benefit of this event was doubled once by a community empowering happening second by enriching the sauerkraut with the microbiome of each participant as part of donor of the starter culture and secret ingredient of wild fermentation. (Wild fermentations are Ferments that won't use inoculated starter colonies of yeast or lactobacillus produced industrially)

The task to install a ferment lab inside the digital maker exhibition space of Shadok is not easy since fermenting inside a clean designers environment means you enter this world with an underestimated profession of a cook, and secondly, using degradable biomaterial, which especially due to fermentation, has a strong olfactory feature.



photos by Andrew Paterson





ATLAS #1

The first atlas contribution, within the Ferment Lab space and the various artefacts on the table, aims to introduce the diverse aspects of our process. Accompanying the 'permanent' elements and tools in our process, our table installation, the blackboard graphic mural, the cabinet, the barrels of Choucroute, there was additionally items that were the first collection of changing artefacts.

Changing artefacts on the 'old dark German' table:

- 1 x Wooden masher (remaining through Atlas #2);
- 1 x Jar of fermented cabbage with stone (remaining through Atlas #2);
- 1 x German style fermentation crock pot (remaining through Atlas #2);
- 1 x Paper-making frame;
- 1 x Jar of fermented carrots and radish;
- 1 x Collection of 5 spice jars/bags (fennel, thyme, etc);
- 1 x Jar of ferment from Herve's workshop (acid sunrise);
- 7 x Stones;
- 2 x Farhan's pickles;
- 1 x Andrew's kimchi;
- 1 x Petri dish with mouldy cabbage sample inside;
- 1 x Bag of fair trade sugar.

Changing artefacts in the Ferment Lab space:

- 10 x Wooden crates for 6 whole cabbages (remaining through Atlas #2).

Archive links:

- *https://archive.org/details/fermentlab-pixelache-2017-strasbourg-exhibition-atlas-1-opening-agryfp*
- *https://archive.org/details/fermentlab-pixelache-2017-strasbourg-exhibition-atlas-1-agnieszka*
- *https://archive.org/details/fermentab-pixelache-2017-strasbourg-exhibition-atlas-1-audio*

CURATORIAL COMMENTS BY MARINE FROEGILER (L'ÉLASTIQUE RELATIONELLE)

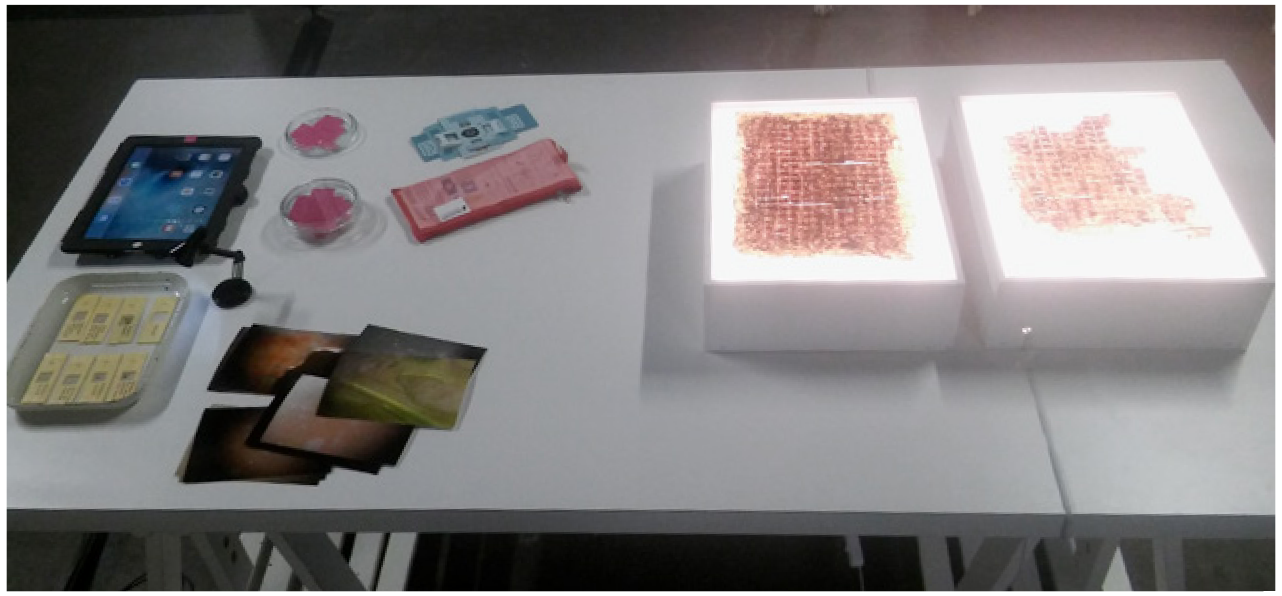
L'objetif de « Strasbourg laboratoire de demain » est avant tout exposer des futurs possibles et potentiels, singuliers, cocréatifs et systémiques à l'image du Ferment Lab (Pixelache), qui est l'excellent exemple d'innovation numérique et sociale, révélé dans un dispositif artistique libre et ouvert.

Compte tenu des principaux retours apportés par le public (lors de conversation) sur l'impact du Ferment lab, la perspective donnée dans l'espace physique et la place accordée (souhaité évolutive) dans le contenu dans l'exposition ont contribuer à transmettre la contribution et composition du biohacking dans l'innovation social et solidaire, notamment à travers son accéssibilité et sa reproductibilité (chez soi sur sa propre table de cuisine ou de salle à manger, avec les autres).. Les notions du D.I.Y et du D.I.W.O ont ici été clairement transmissent et entenduent.

De nombreuses réactions stimulées (et stimulantes) par des appréciation et des réactions décomplexées (souhaitées ndlr) nous ont permis d'apprécier la qualité et réussite de l'installation (dans sa scénographie), de l'expérimentation sans oublier le travail de fermentation (testé et gouté durant les workshops).

Le sujet de la fermentation dans une exposition de créations et d'enjeux numériques a tout d'abord laissé le public quelque peu perplexe et dubitatif, laissant apparaître sur les visages un certain scepticisme pour très souvent et très rapidement laisser la place à l'optimisme, compte tenu et en raison de ia compréhension (totale ou partielle) d'une démarche collective et créative à renouer avec des pratiques ancestrales (au regard du contexte morose dans lequel la problématique des perturbateurs endocriniens et des répétitifs scandales alimentaires industriels surmédiatisés vient révéler la fragilité de nos modes de vie actuels) et sociales partageant des usages et des valeurs réactualisées donc et pour ainsi dire remises « au goût du jour ». Par exemple, «On pourrait avoir ça au lieu de prendre des chewing gums! »

Parardoxalement, le travail à partir d'extraits naturelles de pectine de pomme, de miel, de poireau, de choucroute, transformés artisanalement par Andrew.G.Paterson en lettres d'amour bactériennes a davantage effrayé les testeurs, sans doute plus qu'il ne devrait le faire, face à l'offre de produits transformés industriellement (qui sont omniprésents sur les rayons de nos supermarchés).et qui répond au mode d'alimentation... « -Take a bit of bacteriological love letter ! - No thanks ! » Pour les visiteurs les plus curieux à goûter l' « expérimentation » et ils ont été très agréablement surpris et conquis par le délicat « goût de bonbon sentant la pomme »



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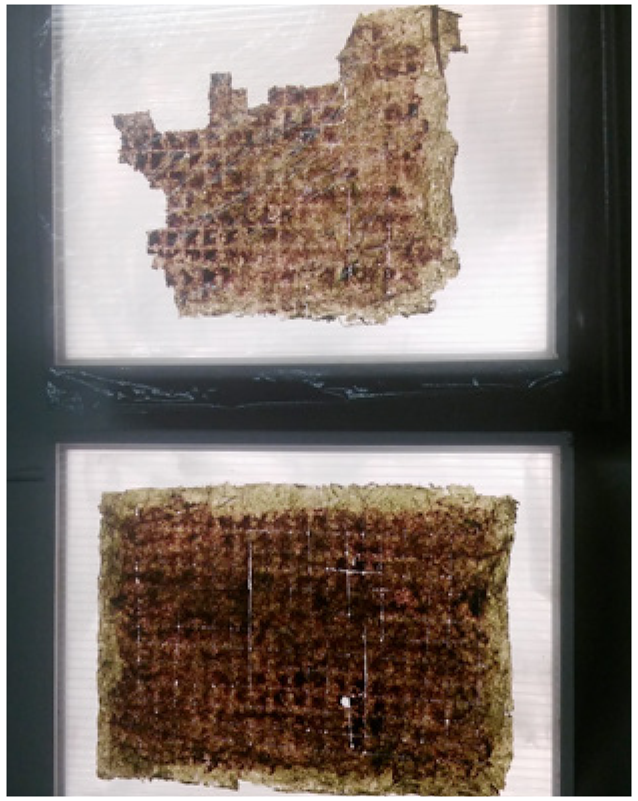

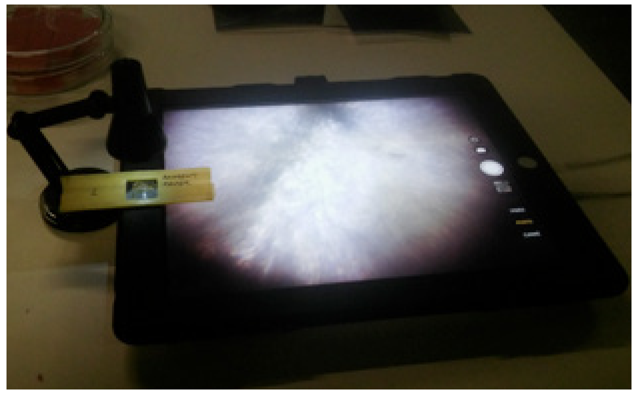

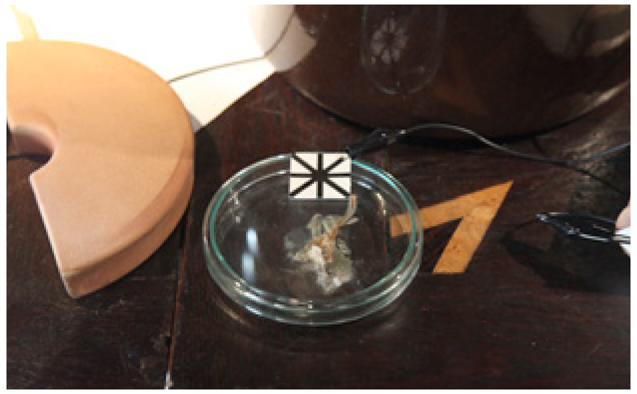

ATLAS #2

The second atlas contribution maintains the Ferment Lab space, with the 'constant' artefacts on the table, but adds in new artefacts and documentations related to collaborative practice. In particular, the 'Krütt Trepple Dance Party' takes centre-stage with the paddling pool projection and disco-ball.

Changing artefacts on the 'old dark German' table:

- 1 x Wooden masher (remaining from Atlas #1);
- 1 x Jar of fermented cabbage with stone (remaining from Atlas #1);
- 1 x German style fermentation crock pot (remaining from Atlas #1);
- 1 x Sponge (Bacterial Love Letters) (remaining through Atlas #3);
- 1 x Stack of chopping boards (7 wood, 5 plastic, 1 big plastic, with stains);
- 4 x Plastic tongs (Choucroute Gratuit);
- 2 x Medium-size choucroute cutters;
- 1 x Petri dish with choucroute juice sample inside;
- 1 x Jar of ferment from Herve's workshop (nuances de verts);
- 1 x Flacon of cheap wine;
- 2 x Right hands of sharp-edge protecting gloves.

Changing artefacts in the Ferment Lab space:

- 10 x Wooden crates for 6 whole cabbages (remaining from Atlas #1);
- Children's paddling pool, with projection of looped-videos of dancing & disco mirror ball.

Archive links:

- *https://archive.org/details/fermentlab-pixelache-2017-strasbourg-exhibition-atlas-2*
- *https://archive.org/details/fermentlab-pixelache-2017-strasbourg-exhibition-atlas-2-audio*

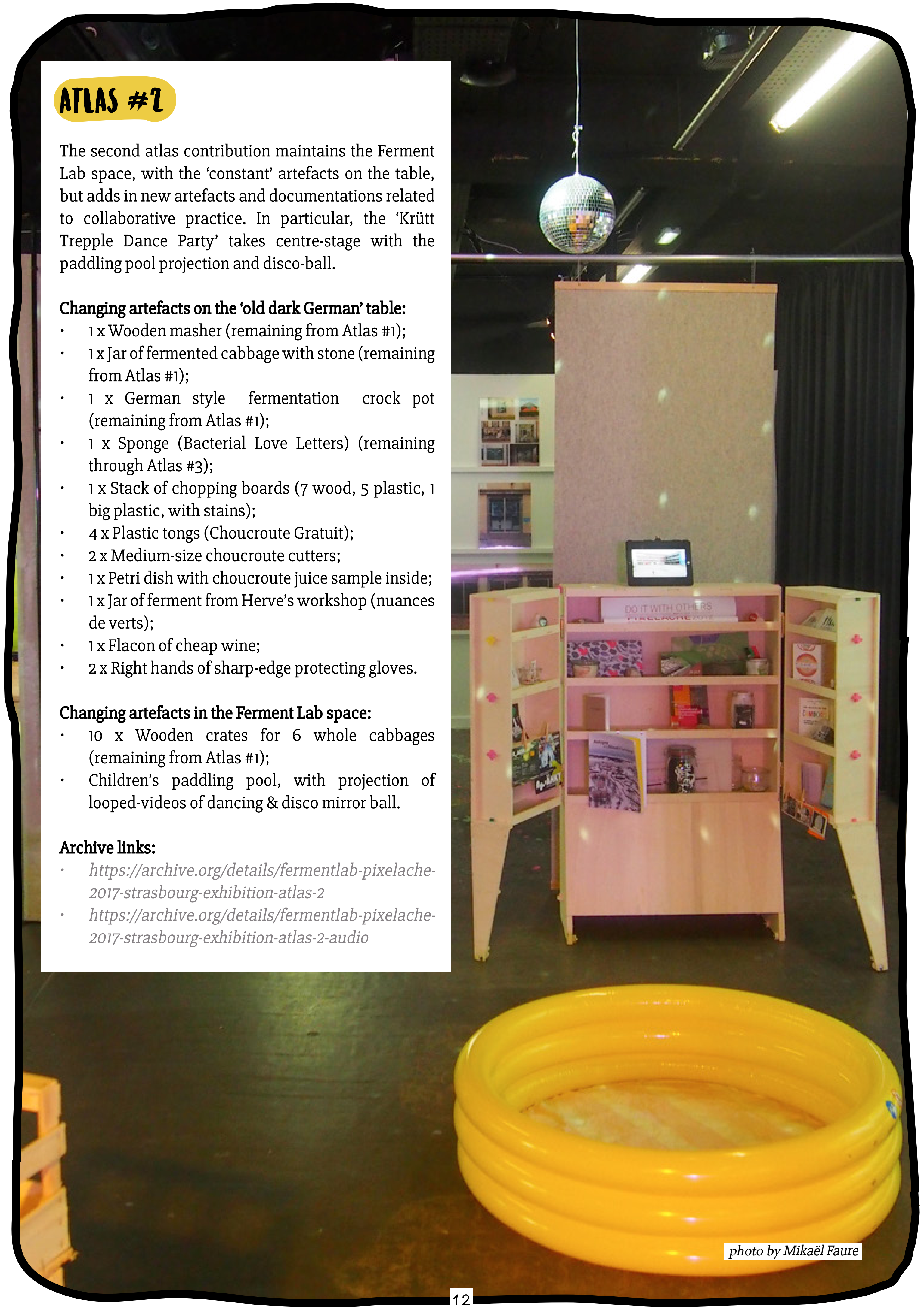

photo by Mikaël Faure

all photos of Atlas #3 by Andrew Paterson

ATLAS #3

The third atlas contribution again maintains the Ferment Lab space, with the 'constant' artefacts on the table but swaps in new art-science artefacts which relate to the experiments of Paterson and Pokrywka undertaken in June-July 2017. Respectively 'Bacterial Love Letters' and 'Bacterial Sensing'. The 'Zine also gains related section (part 4) on these processes, and joins the other first 3 parts via an wire-shelf installation installed on nearby pillar.

Changing artefacts on the 'old dark German' table:

- 1 x Sponge (Bacterial Love Letters) (remaining from Atlas #2);
- 1 x Jar of ferment from Herve's workshop (with laser cut feature);
- 2 x Test laser-cut prints (Bacterial Love Letters);
- 1 x Jar of dried nettles (Bacterial Love Letters);
- 1 x Paper-making frame with paper sheet and stone (Bacterial Love Letters);
- 1 x Mini laser set (Bacteria sensing);
- 1 x Jar of ferment from cherries (Bacterial Love Letters);
- 1 x Petri dish of glass beads (Bacteria sensing);
- 1 x Bag of sauerkraut chips from Estonia;
- 1 x Tub of bicarbonate of soda;
- 2 x pH paper experiments (Bacteria sensing);
- 1 x Printing ink roller (Bacterial Love Letters).

Changing artefacts in the Ferment Lab space:

- 1 x IKEA-style bench table, containing artefacts related to personal art-science experiments by Paterson and Pokrywka respectively:
    - Bacterial Love Letters: 2 x light-boxes each containing 1 sheet of hand-made paper from the following the ingredients: Leeks, choucroute purée, honey, apple-pectin, fermented aronia juice;
    - Bacterial Sensing: 1 x metal tray containing 8 x small glass-encased vegetable ferment samples for microscope, 1 x adjustable mini-lamp, computer tablet, 3 x Petri-dishes of take-away glass-bead & silicone square artefact for low-cost DIY microscopy, Series of printed photographs from DIY microscope, Example copy of Foldscope project;
    - 2 x Info-sheets mounted on plastic cutting boards .
- Multiple copies of Zines part 1, 2, 3, 4 on shelves attached to concrete pillar;
- Computer displaying website *https://archive.org/details/@fermentlab-pixelache*.

Archive links:

- *https://archive.org/details/fermentlab-pixelache-2018-strasbourg-exhibition-atlas-3*
- *https://archive.org/details/fermentlab-pixelache-2018-strasbourg-exhibition-atlas-3-audio*

photo by Mikaël Faure

photos by Andrew Paterson

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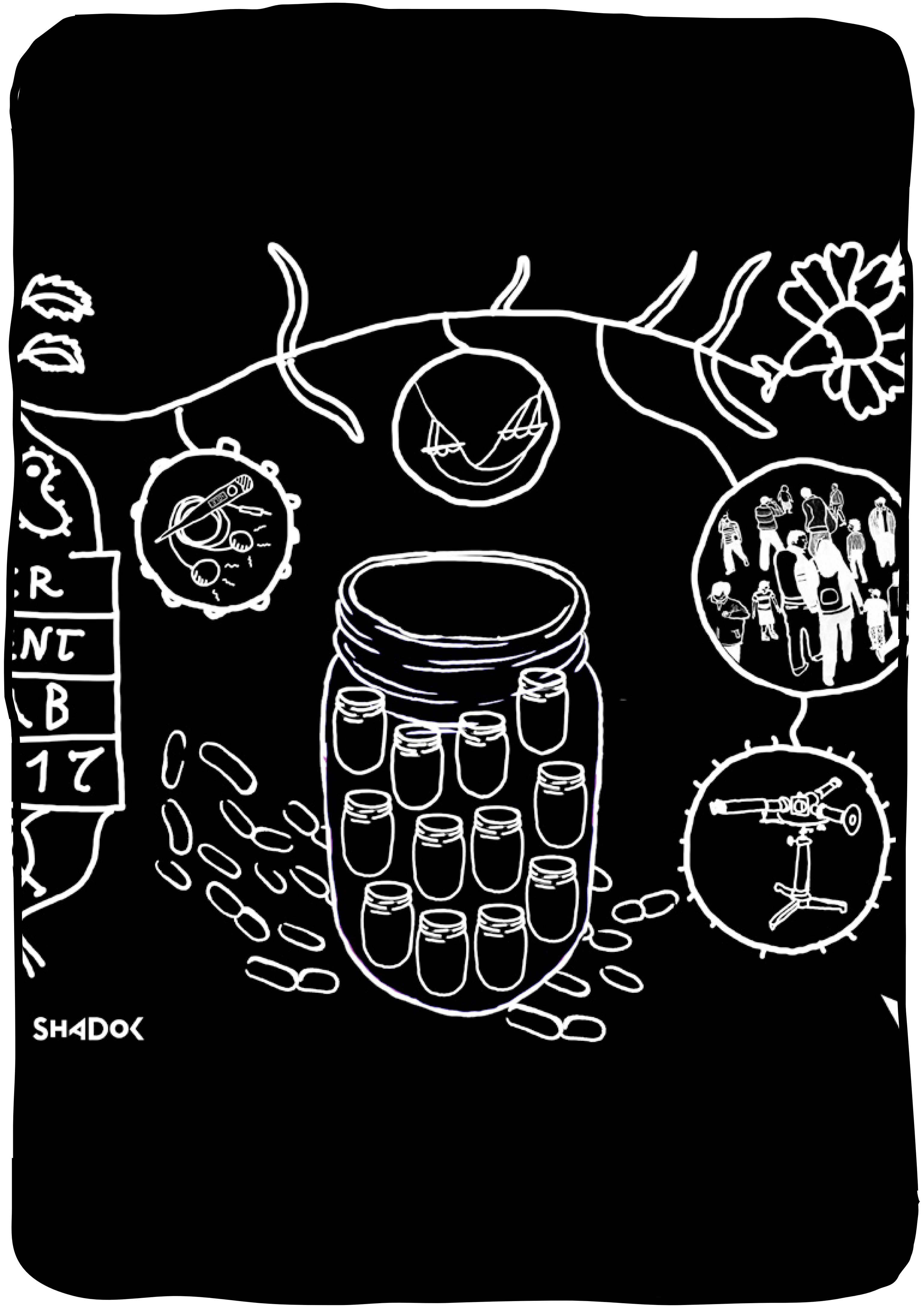
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